

Origin And Destination Report Base Year Scenario Approval Future Year Input WORKSHOP II



Today's Agenda – “Git-R-Done!”

I. Important Introductions

- Mike Bruff
- Cy Smith - Founder and CEO, AirSage
- Division 8 Engineers
- Cheryl Collins

II. Origin and Destination Study Report

- Rhett Fussell – Parsons Brinkerhoff
- CY Smith - Founder and CEO, AirSage
- Craig Gresham – Clearbox

III. Additional Studies to Support Next Steps

- Darius Sturdivant – NC 211 Corridor
- Rhett Fussell – US 1 and US 15-501

IV. Results from Base Year 2010 Data: Data Base and Graphics

V. How Do You Expect to Grow from 2030 – 2040:

- Population
- Employment



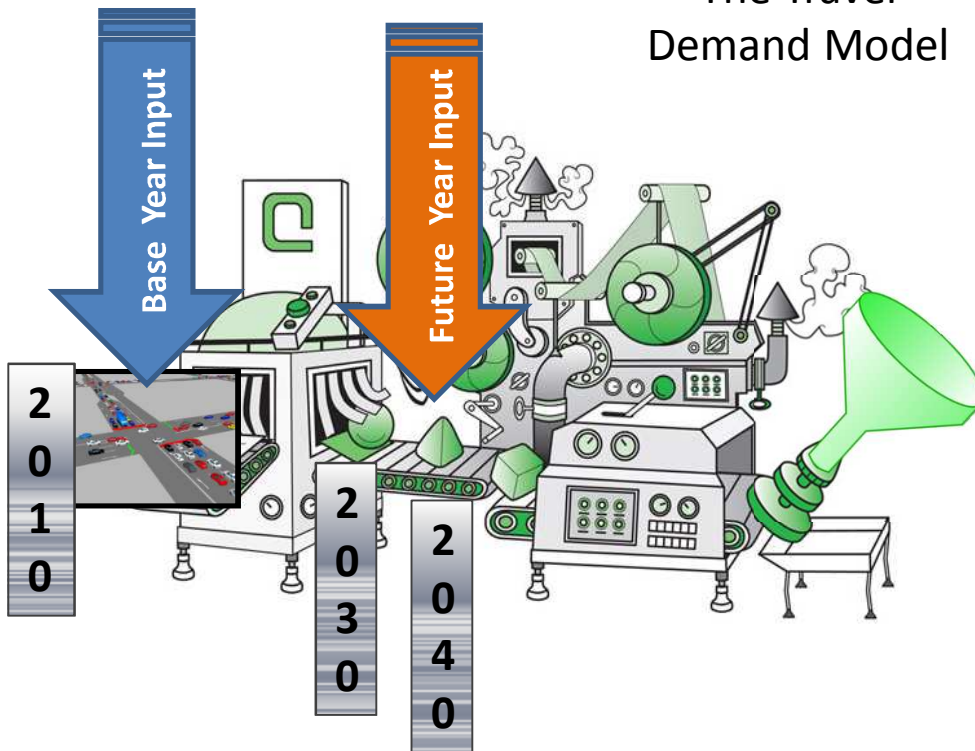
Future Year Input WORKSHOP II

Our Tool:
The Travel
Demand Model

STATUS

Developing 2 Aspects of
the Model's Capabilities

- *How changes in land use, population, and area employment will impact the transportation system.*
- *Assess impacts of future growth and development by examining the limits of the existing infrastructure.*



2010: O and D Report

2030: Review and Results Approval

2040: Guidance on Expected Growth Between 2030 and 2040



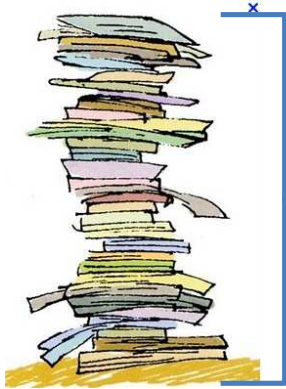
Travel Demand Modeling

Rhett Fussell
and
Craig Gresham



**PARSONS
BRINCKERHOFF**





March 13th Workshop

3-13-2013

Pile #1

Last Meeting

- Completed 2030 Growth projections.
- Submitted Survey information
- Marked up maps and provided comments
- **These materials are at your station today for reference**

Comments on compiling information:

- 2011 Pre-Charrette Development did not equal 2013 March Development (Handouts).
- NCDOT conducted a detailed phone survey of local staff to confirm and adjust development expected in 2030. Invited Local staff to discussion TCC meeting June 12th.
- Survey Growth rates were not reported using the same units (Next slide).
- Method was developed to distribute natural growth based on 2010 averages adjusted to align proportionately with low, medium , and high values determined at the March meeting. Calculations are provided for your review one per station and will be available on-line.
- Calculations carry 6 decimal places which are not shown with rounding in the final totals. As a result, some totals at intermediate points may appear off by one or two points: $2+7=10$
- **All corrections are welcomed and encouraged. Please provide by August 5th.**₅

SURVEYED GROWTH RATES COMPILED

| Planning Jurisdiction | Population 2010 | # of 2010 House Holds | Pop High Growth | Pop Medium Growth | Pop Low Growth | Employment | Emp High Growth | Emp Medium Growth | Emp Low Growth |
|-----------------------|-----------------|-----------------------|-----------------|--------------------------|--------------------|------------|-----------------|-------------------|----------------|
| Aberdeen | 6,350 | 2,832 | | | | | | | |
| Cameron | 285 | 116 | 25+ | 16-25 | 0-15 | | 21+ | 11-20 | 0-10 |
| Carthage | 2,205 | 934 | | | | | | M | |
| County | 43,254 | 17,027 | 176-500 | 76-175 | 0-75 | 3600 | 201-500 | 76-200 | 0-75 |
| Foxfire | 902 | 437 | 300+ 100HH+ | 151-300 50-100HH | 0-150 0-50HH | | (25%+) | (11-25%) | (0-10%) |
| Pinebluff | 1,337 | 531 | 51+ | 21-50 | 0-20 | | 51+ | 21-50 | 0-20 |
| Pinehurst | 13,124 | 6,047 | 6,561 (50%+) | 2,626-6,560 (20%-50%) | 0-2,625 (0-20%) | Hos - 500 | | | |
| Robbins | 1,097 | 378 | 31+ | 15-30 | 0-15 | | 21+ | 11-20 | 0-10 |
| Southern Pines | 12,334 | 5,866 | 3.5%-5% | 2%-3.5% | .5%-2% | | 3.5%-5% | 2%-3.5% | .5%-2% |
| Taylorstown | 722 | 303 | 100 | 50 | 0 | | 500 | 300 | 100 |
| Vass | 720 | 303 | | | | | | | |
| Whispering Pines | 2,928 | 1257 | | | | | | | |



POPULATION



Population was calculated as follows:

- Assumed Households = Housing Units.
 - There may be more than 1 household per housing unit (independent financial family unit).
- **Population** = ((# of New Houses)+ (Purchased Lots Infill)) (Census Person's per HH by TAZ).
 - This was totaled by TAZ and subtracted out of the allowed population control total of 28,000.
 - Residual was 1,434 residents.
- This was distributed throughout TAZ's that had not received growth from new development or purchased lots in existing neighborhoods according to the Low, Medium, and High parameters approved by the MCTC March 13, 2013.
- If your planning jurisdiction specified a value for growth in categories for housing and population. The value for housing was used as specified and population calculated as shown above for consistency.

(Calculated by Matt Day)



EMPLOYMENT



Based on submitted data, 2030 employment was calculated two ways:

- For values specified (for example, 30 office employees), these were maintained. If zero was the only value entered in 2010, zero was entered for 2030.
- For **Low**, **Medium**, and **High** values, 2030 employees were proportionally calculated based on current employment. For areas with multiple values, **Low**, **Medium**, and **High** were averaged. (Example: Zone 122 High Traffic Retail. County=Medium, Vass=0. Average was Low)
- The Office category was accidentally left off in the original spreadsheet. It has been added back. **Low**, **Medium**, and **High** values were borrowed from Retail and used for the Office category based on control totals. **Please check and confirm this provided reasonable results.**

Mission of the July 31, 2013 MCTC Workshop

(See Handout)

For MCTC Approval

The following table includes control totals approved by MCTC March 13th, 2013, 2030 calculated totals from data collected; and blank columns reserved for 2040 control totals determined at today's meeting.

Based on current population growth rates of 1.59% and the projections from the North Carolina Office of State Budget Management (OSBM), comparison projections at 1.59 and 1.00 percent are also provided for 2040.

For MCTC Approval

The following table includes control totals approved by MCTC March 13th, 2013, 2030 calculated totals from data collected; and blank columns reserved for 2040 control totals determined at today's meeting.

Based on current population growth rates of 1.59% and the projections from the North Carolina Office of State Budget Management (OSBM), comparison projections at 1.59 and 1.00 percent are also provided for 2040.

| Control Inputs | 2012 | 2030 Control Totals | 2030 Calculated | 2040 Control Totals |
|--|-------|---------------------|-----------------|---------------------|
| Population | 87635 | 28,000 | 28,000 | |
| Households | 37269 | 12,000 | 12,296 | |
| Infill housing units from population distribution. | | | 535 | |
| Housing Units from new development. | | | 5,840 | |
| Housing Units from purchased lots. | | | 5,921 | |
| Employment | | | | |
| Industry | 5515 | 1,500 | 1,500 | |
| Retail | 3927 | 1504 | 1504 | |
| Hwy Retail | 3743 | 1410 | 1410 | |
| Service | 8325 | 3196 | 3196 | |
| Office | 6144 | 2350 | 2350 | |
| Rec Employment | 519 | 376 | 376 | |
| Hotel Employment | 1697 | 470 | 470 | |
| Hospital | 2000 | 500 | 500 | |
| | | | | |
| | | | | |
| | | | | |

| Calculate Annual Percentage Growth Rate | Calculate 2030-2040 Population Based on 1.59% Annual Growth Rate | Calculate 2030-2040 Population Based on 1.00% Annual Growth Rate | | | |
|---|--|--|--|--|--|
| 2012 Population | 87,247 | 2030 Population | 118,247 | 2040 Population | 132,247 |
| 2030 Population | 118,247 | 2030 Population | 118,247 | 2040 Population | 132,247 |
| Number of years | 20 | Number of years | 20 | Number of years | 20 |
| Output (this cell will auto calculate) | Output (this cell will auto calculate) | Output (this cell will auto calculate) | Output (this cell will auto calculate) | Output (this cell will auto calculate) | Output (this cell will auto calculate) |
| Annual rate | 1.59% | Annual rate | 1.59% | Annual rate | 1.00% |

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|--|-------|-------|---------------------|-----------------|---------------------|
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| | | | | | |
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| | | | | | |
| | | | | | |

Quick Review of Process March 13th:

Environmental Indicators by TAZ Spreadsheet

- A series of maps and two spread sheets were provided.
- TCC and MCTC members worked together to determine growth based on Environmental and Community parameters:
 - Access to Water and Sewer
 - Environmental Features that impact density and zoning
 - Built Environmental Features and Expected Development

Note the following criteria should be considered for consistency: Keep Answers concise providing a number where applicable (Density) and Yes/No where possible.
Water and Sewer should be answered as 'yes' if the TAZ falls within 300' of access.

| ENTITY | TAZ | Access to Water and Sewer | Critical Watershed | Voluntary Agricultural District | | Density | Zoning Issues | 2030 Proposed Special Generator | Additional Comment | Identified for Group Discussion |
|---------------|-----|---------------------------|--------------------|---------------------------------|--|--------------------|---|---------------------------------|------------------------------|---------------------------------|
| COUNTY VASS | 122 | Access | | No* | | High | New Retail, school, church, high school | | Check current employment #'s | Yes |
| COUNTY VASS | 200 | Access | | Yes | | Medium, (2du/acre) | FLOODPLAIN | Hwy Interchange | Check current employment #'s | |
| COUNTY VASS | 202 | No Access | | Yes | | Low | | | | |
| VASS | 203 | Access | | No | | High | R&R HISTORIC | | Check current employment #'s | |
| COUNTY VASS | 204 | Access | | Yes | | Medium, (2du/acre) | | Hwy Interchange | | |
| VASS | 205 | Access | | No | | Low | R&R HISTORIC | Hwy Interchange | | |
| COUNTY VASS | 207 | Access | | Yes | | Medium, (2du/acre) | RR | | | |
| COUNTY VASS | 239 | Access | Yes | Yes | | Low | HISTORIC | | Check current employment #'s | |
| CARTHAGE VASS | 241 | Access | | Yes | | Medium, (2du/acre) | | School | | |
| COUNTY VASS | 249 | Access | Yes | Yes | | Medium, (2du/acre) | FLOODPLAIN | School & Park | | |

Local Data

Population and Employment by TAZ Spreadsheet

Still about Infrastructure, Availability of Developable Land, and Trends

- Growth and Decline Trends for Population and Households
- Employment Breakdowns by Category and by TAZ.

POPULATION

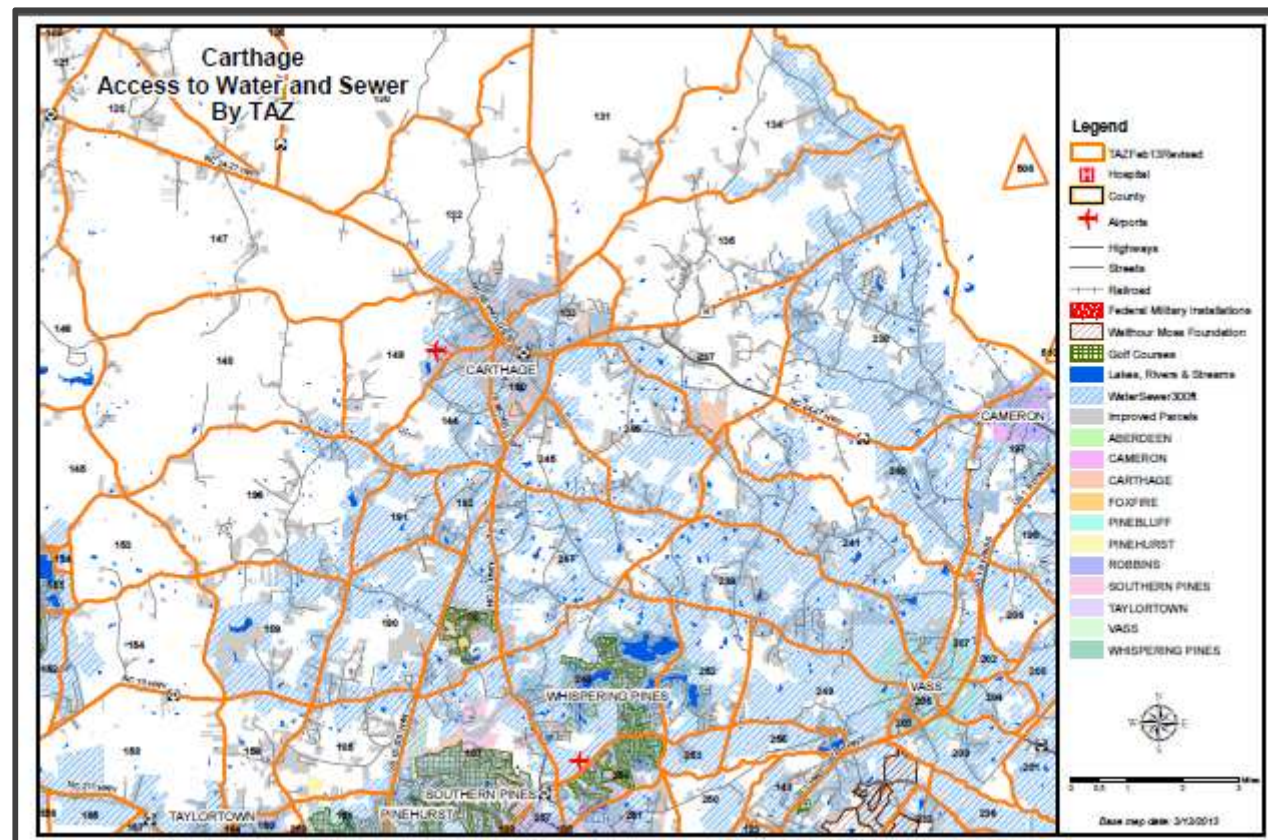
HOUSEHOLDS

EMPLOYMENT

| ENTITY | TAZ | 2003 Population | Historical Trend | 2000 Expected Growth | Household | 2000 Expected Growth | Pop per Household 2000 | Pop per Household 2010 | Pop per Household Trend | 2003 Total EMP | 2000 Growth | Industry | 2003 Growth | Ratio | 2000 Growth | Household | 2003 Growth | Service | 2000 Growth | Per EMP | 2000 Growth | Total EMP | 2000 Growth | TotEmp | 2000 Growth |
|--------|-----|--------------------|------------------|-------------------------|-----------|-------------------------|------------------------------|------------------------------|-------------------------------|-------------------|--------------|------------|----------------|-------------|--------------|-------------|----------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|
| COUNTY | | | | City-Low V- | | City-Low V- | | | | | | City-Low P | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | |
| WASS | 123 | 881 | -6.8% | 948 | 146 | City-Low V-200 | 2.61 | 2.88 | Increase | 0 | City-Low V-S | 21 | City-Low P | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 119 | City-Low V |
| COUNTY | | | | City-Low V- | | City-Low V- | | | | | | City-Low P | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | |
| WASS | 330 | 225 | 22.8% | 56 | 87 | City-Low V-15 | 2.36 | 2.56 | Increase | 0 | City-Low P | 9 | City-Low V-S | 11 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 19 | City-Low V-S |
| COUNTY | | | | City-Low V- | | City-Low V- | | | | | | City-Low P | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | |
| WASS | 332 | 4 | | 0 | 0 | City-Low V-1 | 0.00 | 0.00 | Increase | 0 | City-Low P | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S |
| WASS | 332 | 89 | -40.9% | | 51 | | 0.00 | 0.39 | Increase | 483 | | 80 | | 0 | | 12 | | 0 | | 0 | | 0 | | 40 | |
| COUNTY | | | | City-Low V- | | City-Low V- | | | | | | City-Low P | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | |
| WASS | 334 | 118 | -20.9% | 115 | 47 | City-Low V-10 | 2.08 | 2.80 | Decrease | 0 | City-Low P | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S |
| WASS | 335 | 181 | 21.3% | | 86 | | 2.54 | 2.84 | Decrease | 0 | | 17 | | 0 | | 15 | | 0 | | 0 | | 0 | | 0 | |
| COUNTY | | | | City-Low V- | | City-Low V- | | | | | | City-Low P | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | |
| WASS | 337 | 106 | 58.2% | 81 | 89 | City-Low V-10 | 1.85 | 2.36 | Increase | 0 | City-Low P | 0 | City-Low V-S | 0 | City-Low V-S | 42 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 117 | City-Low V-S |
| COUNTY | | | | City-High P- | | City-High P- | | | | | | City-Low P | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | |
| WASS | 349 | 861 | 5.4% | 46 | 311 | City-High P-20 | 2.95 | 2.77 | Decrease | 0 | City-Low P | 13 | City-Low V-S | 0 | City-Low V-S | 13 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 93 | City-Low V-S |
| COUNTY | | | | City-Low V- | | City-Low V- | | | | | | City-Low P | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | |
| WASS | 351 | 732 | 85.0% | 0 | 276 | City-Medium | 2.66 | 2.87 | Increase | 0 | City-Low P | 0 | City-Low V-S | 0 | City-Low V-S | 20 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 100 | City-Low V-S |
| COUNTY | | | | City-Low V- | | City-Low V- | | | | | | City-Low P | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | | City-Low V- | |
| WASS | 349 | 151 | 5.0% | 31 | 218 | City-Low V-14 | 2.38 | 2.57 | Decrease | 0 | City-Low P | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S | 0 | City-Low V-S |

Maps

Access to Water and Sewer

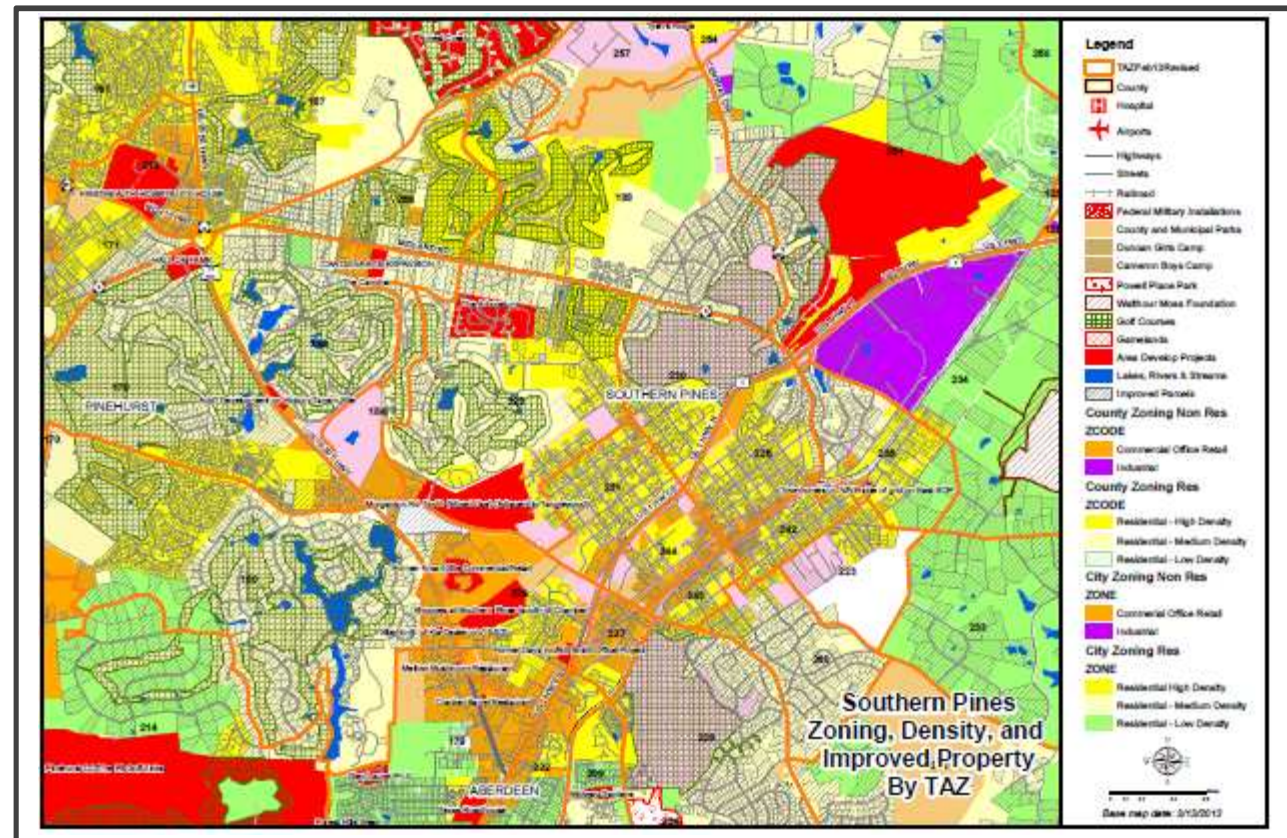


Environmental Indicators



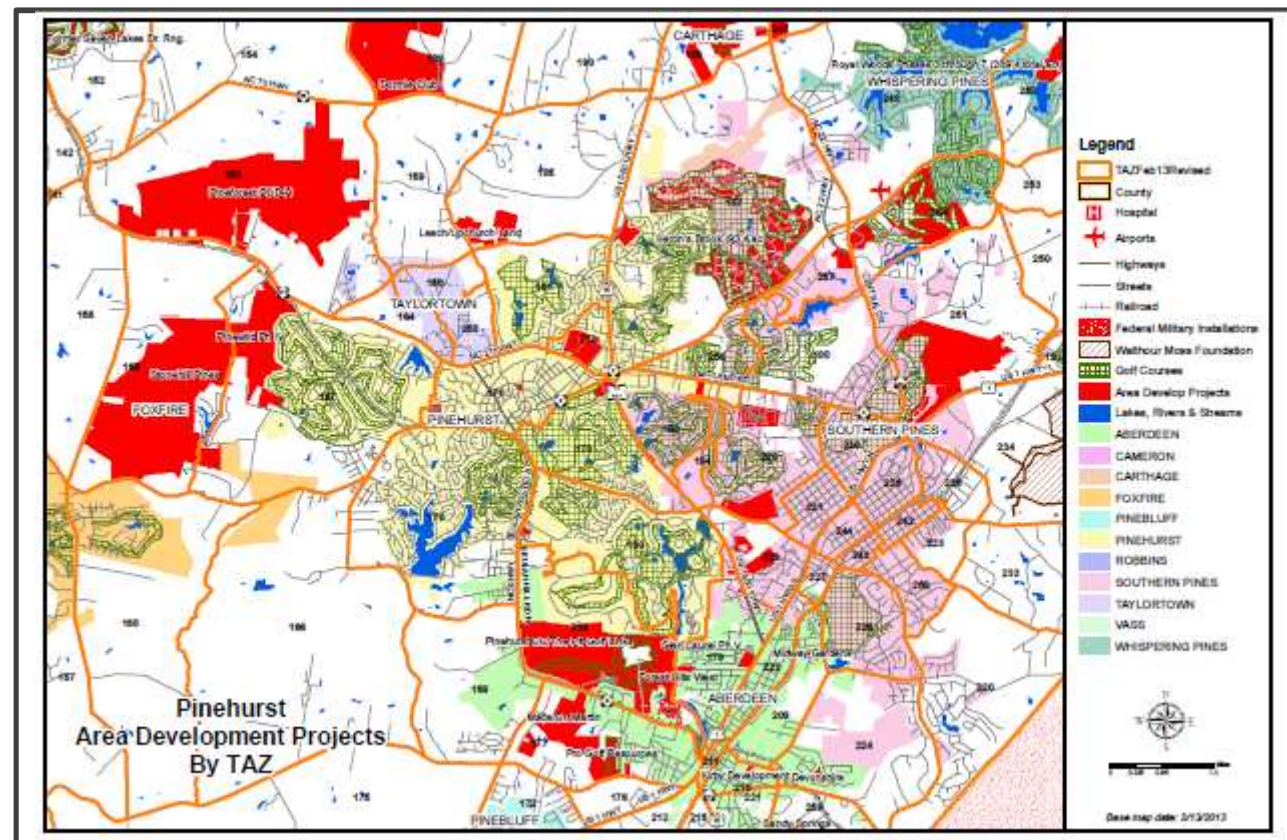
Maps

Zoning and Density



Maps

Area Developments



Land Identified for Avoidance By Moore County





July 31st Workshop

7-31-2013

Pile #2

Today

- Results of surveyed SE and development data.
- Check 2030 data values and provide comments.
- Using the materials associated with your planning jurisdiction from March 13th Workshop:
 - Review 2030 data and
 - Maps (graphical representations of growth)
- Assign growth values for 2040
- Approve 2030 Projections
- Provide Guidance for 2040 Growth



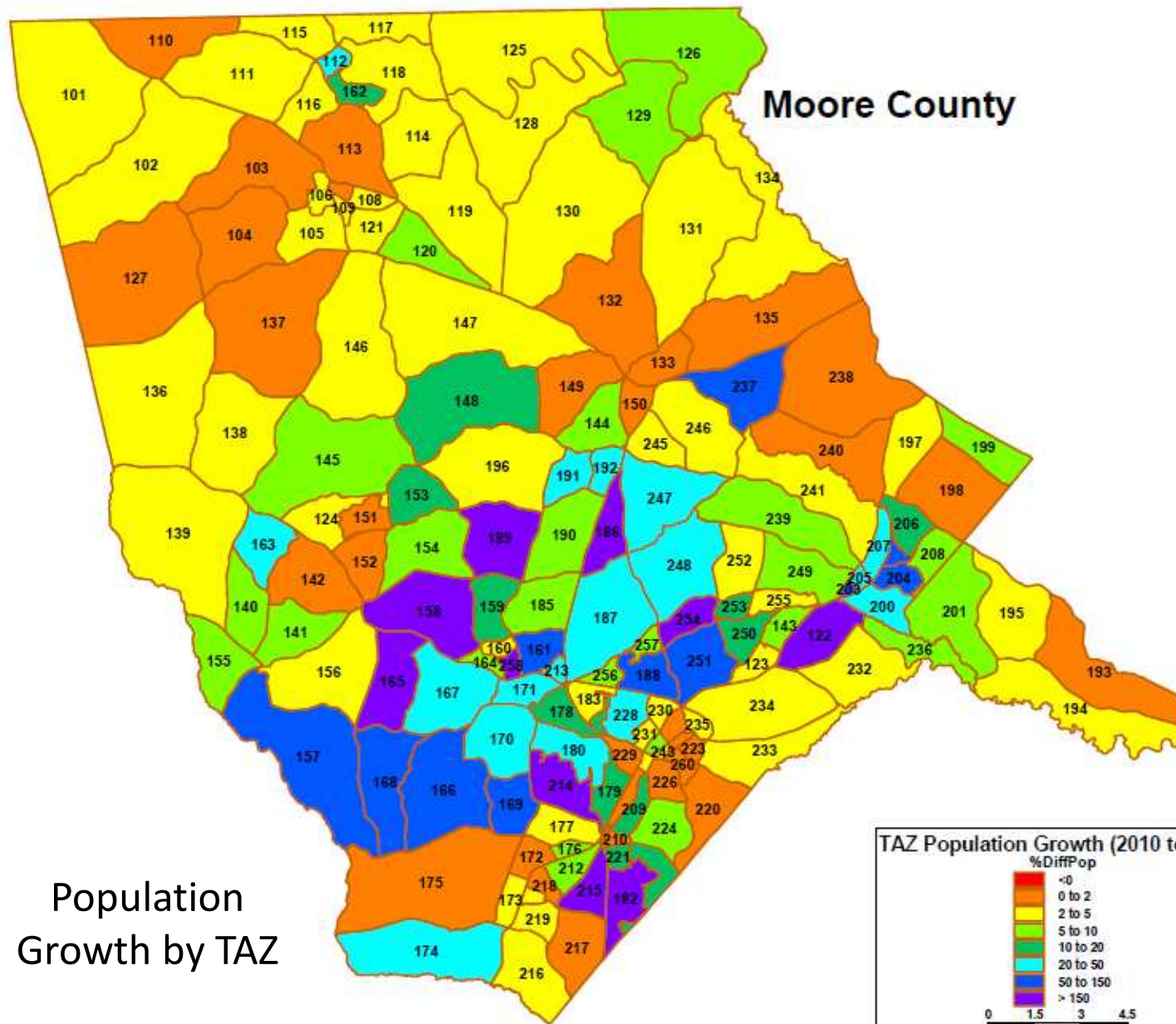
For MCTC Approval

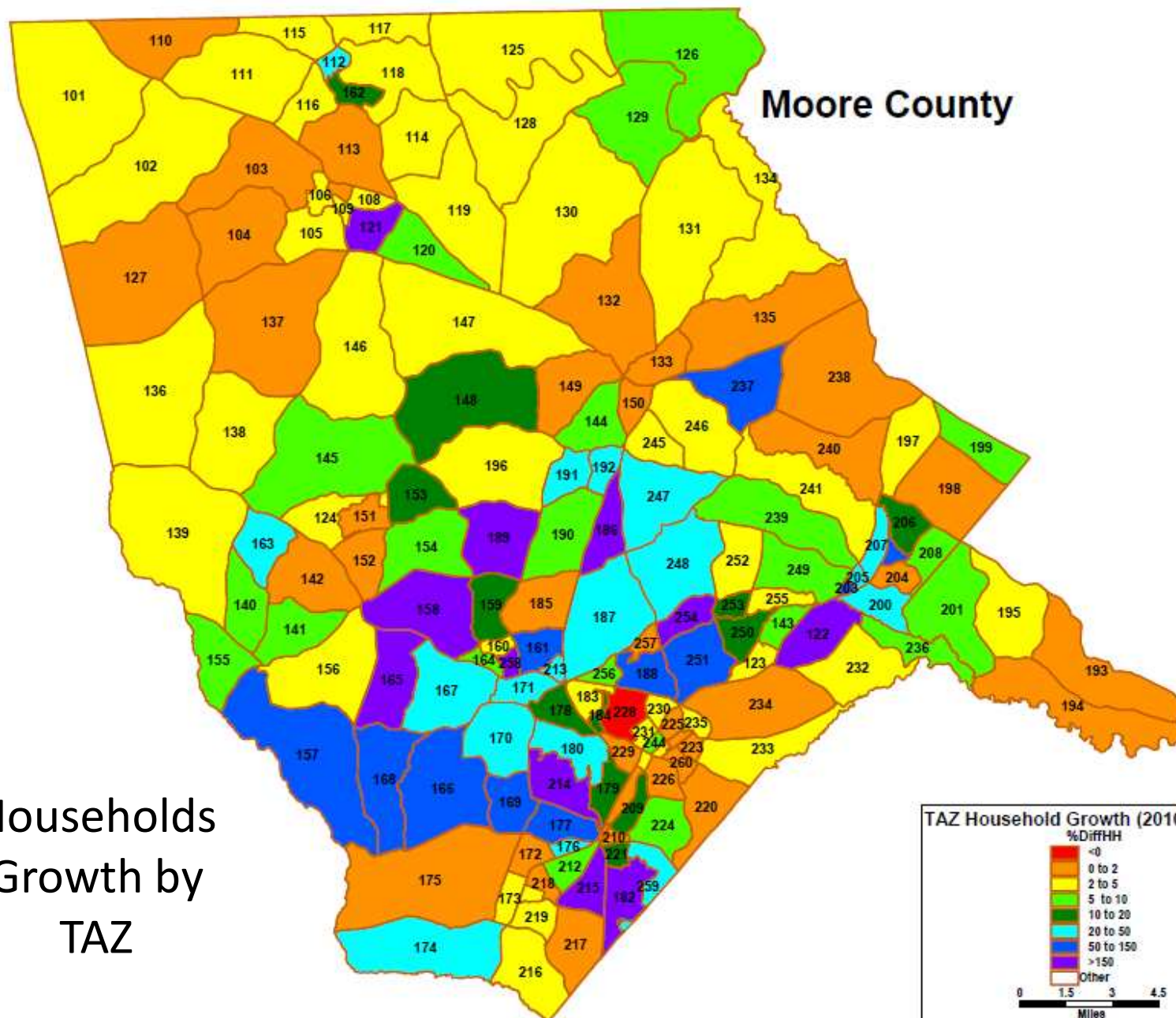
The following table includes control totals approved by MCTC May 13th, 2013. 2030 calculated totals from data collected and work volumes required for 2040 control totals determined at today's meeting.

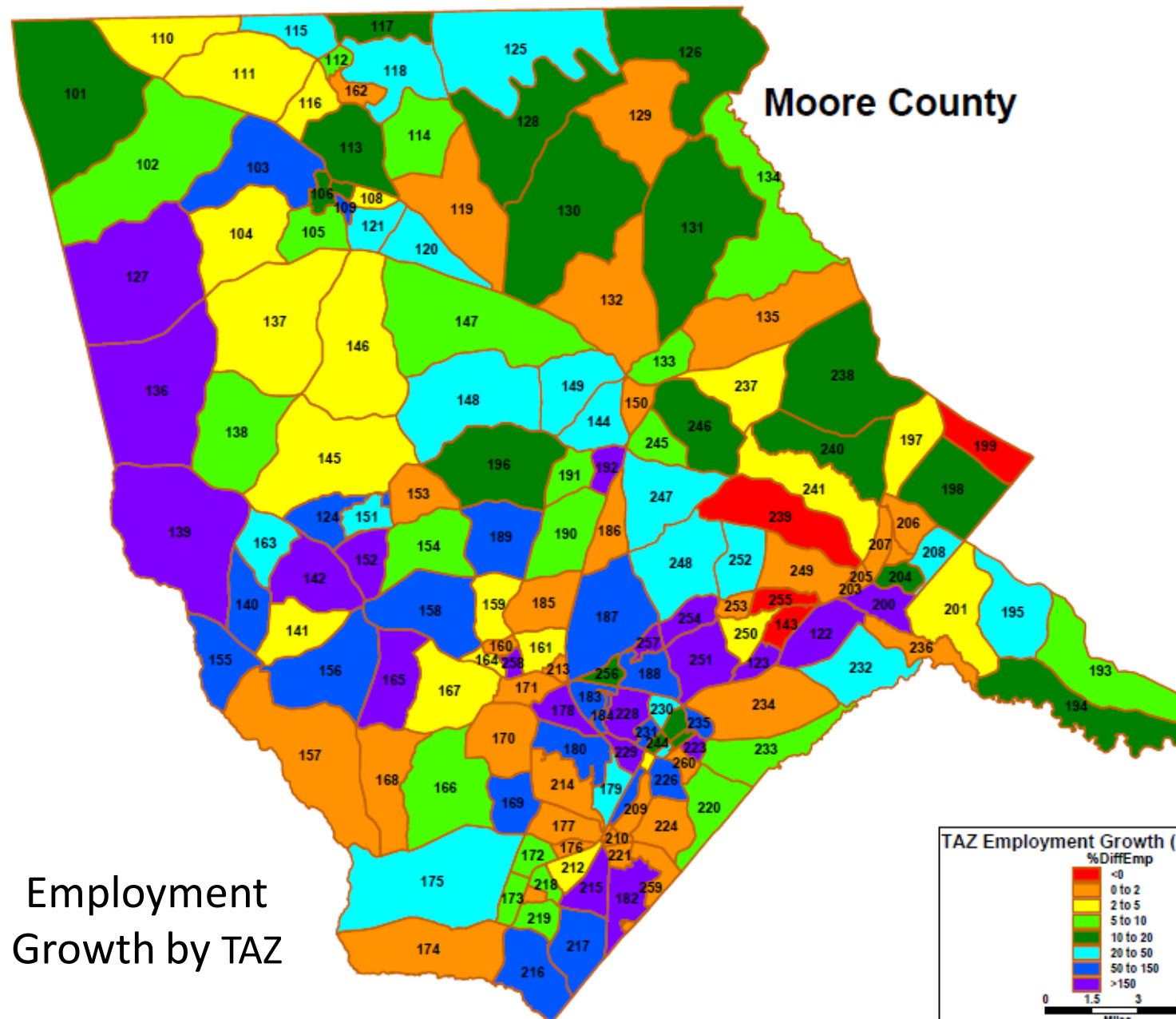
Based on current population growth rates of 1.59% and the projections from the North Carolina Office of State Budget Management (OSBM), comparison projections at 1.59 and 0.50 percent are also provided for 2040.

| Control Totals | 2012 | 2030 Control Totals | 2030 Calculated | 2040 Control Totals |
|---|--------|---------------------|-----------------|---------------------|
| Population | 17,915 | 20,000 | 20,000 | 20,000 |
| Households | 7,168 | 11,000 | 12,248 | |
| Off-Street Parking | | | 1,000 | |
| Off-Street Parking (per 1,000 population) | | | 5.00 | |
| Off-Street Parking (per 1,000 households) | | | 5.00 | |
| Employment | 9,400 | 10,000 | 10,000 | |
| Industry | 5,015 | 5,000 | 5,000 | |
| Retail | 2,807 | 3,000 | 3,000 | |
| Food Service | 1,743 | 1,500 | 1,500 | |
| Office | 614 | 1,500 | 1,500 | |
| Other Employment | 1,135 | 1,000 | 1,000 | |
| Non-Employment | 1,887 | 400 | 400 | |
| Population | 20,000 | 20,000 | 20,000 | |

| Calculate Annual Percentage Growth Rate | | Calculate 2030-2040 Population Based on 1.59% Annual Growth Rate | | Calculate 2030-2040 Population Based on 0.50% Annual Growth Rate | |
|---|------------|--|------------|--|------------|
| Year | Population | Year | Population | Year | Population |
| 2010 Population | 88,247 | 2030 Population | 119,247 | 2030 Population | 119,247 |
| 2030 Population | 119,247 | 2040 Population | 134,780 | 2040 Population | 125,005 |
| Number of years | 20 | Number of years | 10 | Number of years | 10 |
| Output: (do not edit fields below) | | Output: (do not edit fields below) | | Output: (do not edit fields below) | |
| Growth rate | 1.59% | Growth rate | 1.59% | Growth rate | 0.50% |
| | 20,000 | | 16,400 | | 11,780 |







Conclusions

1: What was your impression of the results? Did it work for your planning jurisdiction?

2: MCTC Group Discussion on 2040 Control Totals

Population –

Households –

Employment –

3: MCTC Meeting to Check 2040 data and Graphics?

- Confirm Annual Growth Rate at **1.59 %**
- Determine Control Totals to be used for 2040

4: MCTC Meeting to Check 2040 data and Graphics?

5. Next steps: Approval and Endorsement from MCTC and RPO, NCDOT will go to local boards with SE data and Growth.

